FERRITIC STAINLESS STEEL EXCELLENT IN HIGH TEMP ERATURE SALT DAMAGE PROPERTY

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Abstract

PURPOSE:To improve the high temp. salt damage resistance of a stainless steel by specifying C, Si, Mn, Cr, Ni, N, Al, P and S and incorporating prescribed amounts of Ti, Zr, Nb, V and Ta therein in the ranges satisfying a specified inequality.
CONSTITUTION:This staialess steel is formed of a compsn. contg., by weight, <=0.1% C, <=1% Si, <=2% Mn, 11 to 25% Cr, 0.1 to 2% Ni, <=0.1% N, 1 to 6% Al, <=0.04% P, <=0.005% S and 0.01 to 0.1% of one or more kinds among Ti, Zr, V, Nb and Ta, and the balance Fe. Then, in the same components, the conditions of Ti%/48+Nb%/93+Zr%/91+V%/51+Ta%/181>=C%/12+ N%/14 are satisfied to evade the formation of the carbon nitrides of Al and to sufficiently bring out the effect of Al, by which its high temp. salt damage resistance is shown and its toughness is improved.